

PATENT APPLICATION
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Docket No: Q80691

Hajime NAKAO, et al.

Appln. No.: 10/809,389

Group Art Unit: 1752

Confirmation No.: 7565

Examiner: Amanda C. WALKER

Filed: March 26, 2004

For: **POSITIVE RESIST COMPOSITION**

DECLARATION UNDER 37 C.F.R. § 1.132

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Fumiya Nishiyama, hereby declare and state:

I am a citizen of Japan.

I graduated from Hokkaido University, Faculty of Science, Course of Physics in March 1989.

In April of 1989, I accepted employment with Fuji Photo Film Co., Ltd. (now FUJIFILM Corporation), and since then I have been engaged in research and development of photoresist photosensitive materials for semiconductors at the Yoshida-Minami Factory Research Division of Fuji.

I am familiar with the present application and I have reviewed the Office Action dated April 20, 2007.

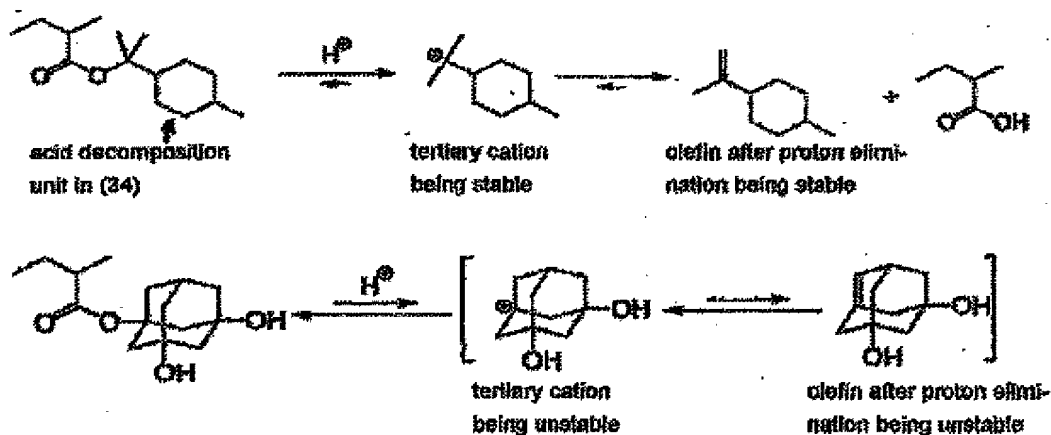
Attorney Docket No.: Q80691

U.S. Application No.: 10/809,389

The purpose of this Declaration is to provide evidence of the acid decomposition mechanisms of resins (34) and (36) of Kodama et al, EP 1 179 750, as shown below.

The adamantane unit in resin (34) does not have an acid decomposition property.

• Regarding resin (34):



As shown in the upper stage, since the tertiary cation generated by decomposition with acid is stable, the acid decomposition proceeds to generate an alkali-soluble group. In contrast, in the lower stage, since the tertiary cation is unstable, the acid decomposition does not proceed so that an alkali-soluble group is not generated.

• Regarding resin (36):



Attorney Docket No.: Q80691

U.S. Application No.: 10/809,389

As shown above, since the tertiary cation generated by decomposition with acid is stable, the acid decomposition proceeds to generate an alkali-soluble group. Since no other acid-decomposition unit is present in resin (36), the resin (36) would lose its acid-decomposition property if this unit were to be replaced.

As a requirement of the present claims, it is essential that the resin increases its solubility in alkali by the action of an acid. However, as is clearly seen from the decomposition mechanisms shown above, replacing the third repeating unit from the left of resin (36) of Kodama with the adamantyl group-containing repeating unit of resin (34), as suggested by the Examiner, would cause the thus-substituted resin (36) to lose its acid-decomposition function, and thus be outside the scope of the present claims.

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: June, 18, 2007

Fumiyuki Nishiyama
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